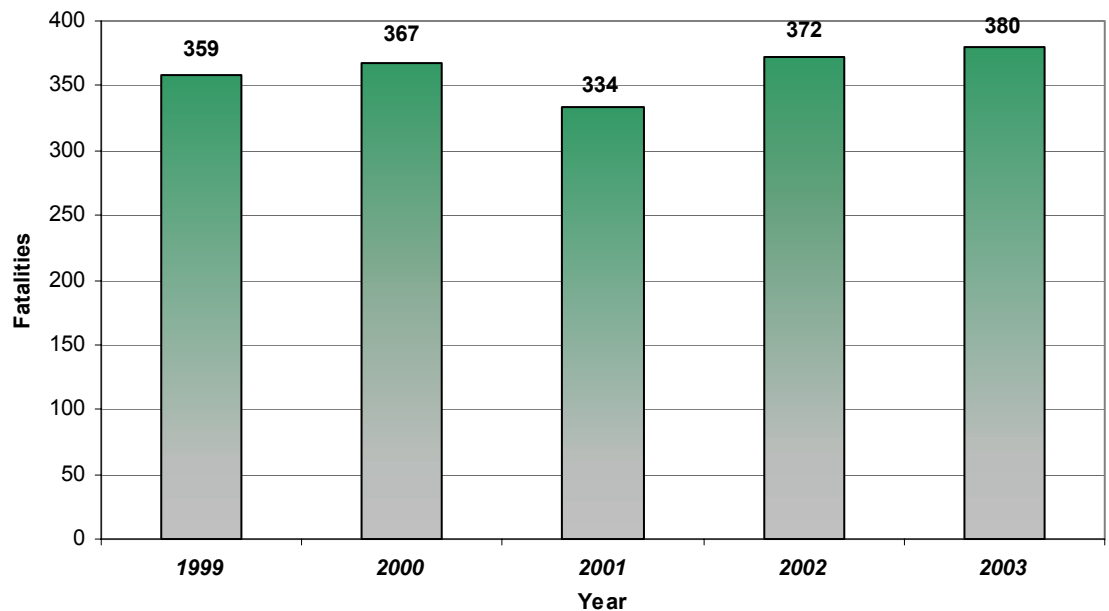


# Intersections

## Background

Although intersections only constitute a small portion of the overall highway system, nationally they are the location of more than 50 percent of all traffic crashes in urban areas and more than 30 percent of those occurring in rural areas. The majority (79 percent) of all fatal crashes occur at non-intersection locations, suggesting that the severity of intersection crashes is lower than elsewhere. Furthermore, it is expected that crashes are concentrated at intersections, since they create numerous conflict points where differing traffic movements converge in one place.

Figure 9. Illinois Intersection Fatalities



Source: Fatality Analysis Reporting System (FARS) Internet

In 2003, intersection-related crashes accounted for 6,458 life-altering injuries and 383 fatalities, or 26 percent of all Illinois fatalities. Refer to Table 2. Of these fatalities, 68 percent occurred at urban locations and the other 32 percent were at rural locations. Nationally, 21 percent of fatalities occurred at intersections.

<b>TABLE 2</b>	<b><i>2003 Illinois Fatalities</i></b>
<b>All Intersections</b>	383
<b>Rural Intersections</b>	123
<i>Signalized</i>	96
<i>Unsignalized</i>	27
<b>Urban Intersections</b>	260
<i>Signalized</i>	210
<i>Unsignalized</i>	50

## Recent Implemented Strategies

- Increased roadway safety enhancements:
  - LED signals
  - In-pavement lighting
  - Interconnected signals
  - Exclusive left-turn lanes
  - Roadway lighting
  - Audible pedestrian signals
  - Countdown pedestrian crosswalk signals
- Local police agency identification and enforcement of “top ten” problem intersections.
- Photo enforcement for red-light running in Chicago.

## Challenges

- Increasing number of intersections at or nearing capacity.
- Older drivers’ limited ability to navigate complex intersections.
- Driver overload (too many signs, signals, markings, lanes, etc.).
- Identification of intersections having disproportionately large numbers of actual and potentially fatal and life-altering injury crashes.
- Local agency identification of problem intersections and commitment of funding for improvements.
- Joint state and local intersection ownership.
- Right-of-way (ROW) constraints at intersections and the high cost of purchasing ROW.
- Environmental and economic impacts of intersection improvements.
- Transformation from a “total crash” system to a “crash severity” system.

## Proposed Strategies

- Identify intersections with disproportionately large numbers of fatal and life-altering injury crashes.
- Initiate and participate in intersection Road Safety Assessments.
- Use alternative designs, such as roundabouts, for intersection improvements.
- Install illuminated street signs.
- Improve sight distance at intersection approaches.
- Improve access management near intersections.
- Apply rumble strips at unsignalized stop approaches.
- Implement dynamic flashing beacons.
- Increase law enforcement at high-crash intersection locations.
- Pursue legislation to allow “Red Light Running” cameras outside the city of Chicago.
- Implement “Red Light Running” countermeasures including photo enforcement cameras and “tell-tale” or “confirmation” lights.
- Install rumble strips at high-speed stop-controlled intersections.
- Develop a procedure for law enforcement officers to request engineering assessments of crash sites.
- Improve driver awareness and knowledge.
- Contribute to a National Cooperative Highway Research Program (NCHRP) “Lead State” initiative for reducing intersection crashes by developing and implementing an action plan.
- Utilize NCHRP Report 500 - Volume 5: A Guide for Addressing Unsignalized Intersection Collisions.
- Utilize NCHRP Report 500 - Volume 12: A Guide for Addressing Collisions at Signalized Intersections.
- Investigate all recent implemented strategies for success.